

10 Appendix A – General Product Information

Radiofrequency radiation exposure evaluation

This exposure evaluation is intended for **FCC ID: 2AA2X-15000345**

According to KDB 447498 D01v06 section 4.3.1, For frequencies below 100 MHz and test separation distances ≤ 50 mm, the Numeric threshold is determined as:

Step a)

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$
for 1-g SAR

Step b)

$\{[\text{Power allowed at numeric threshold for 50mm in step a)}] + [(\text{test separation distance} - 50\text{mm}) \cdot (f(\text{MHz})/150)]\}$
mW

Step c) 1)

For test separation distances $> 50\text{mm}$ and $< 200\text{mm}$, the power threshold at the corresponding test separation distance at 100MHz in step b) is multiplied by $[1 + \log(100/f(\text{MHz}))]$

Step c) 2)

For test separation distances $\leq 50\text{mm}$, the power threshold determined by the equation in c) 1) for 50mm and 100MHz is multiplied by $\frac{1}{2}$.

>> The fundamental frequency of the EUT is 125kHz, the test separation distance is $\leq 50\text{mm}$.
(Manufacturer specified the separation distance is: 20mm)

Step a)

>> Numeric threshold, mW / 50mm $\cdot \sqrt{0.1\text{GHz}} \leq 3.0$
Numeric threshold $\leq 474.3\text{mW}$

Step b)

>> Numeric threshold $\leq 474.3\text{mW} + (50\text{mm}-50\text{mm}) \cdot 100\text{MHz}/150$
Numeric threshold $\leq 474.3\text{mW}$

Step c) 1) & c) 2)

>> Numeric threshold $\leq 474.3\text{mW} \cdot [1 + \log 100/100\text{MHz}] \cdot \frac{1}{2}$
Numeric threshold $\leq 237.15\text{mW}$

>> The power (calculated power + tune up tolerance) of EUT at 125kHz is: 0.00001mW
Which is smaller than the Numeric threshold.
Therefore, the device is exempt from stand-alone SAR test requirements.

Appendix A

Power calculation (According to C63.10 chapter 9.5)

	Value	Unit
Field Strength Measured (E)	45.76	dB μ V/m
Measurement Distance (D)	3	m
Equivalent Isotropically Radiated Power (E.I.R.P in dBm)	-49.4	dBm
Equivalent Isotropically Radiated Power (E.I.R.P in mW)	0.00001	mW

Remark: $EIRP = E + 20\log(D) - 104.7$ (EIRP is in dBm, E is in dB μ V/m, D is in meters)

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